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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,595	08/30/2001	Hiroaki Nagano	2576-116	7913

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EXAMINER	
FERGUSON, KEITH	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 02/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/914,595	NAGANO ET AL.	
	Examiner	Art Unit	
	Keith T. Ferguson	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 6* is/are rejected.

7)☒ Claim(s) *2-5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al..

Regarding claims 1 and 6, Lee et al. discloses a portable telephone (multi-mode portable handset) of a diversity type (operating within two frequency bands)(col. 3 lines 33 through col. 4 line 14) that can be used in both of a continuous transmit/receive system performing continuous transmission/reception of a signal (AMPs)(col. 3 lines 33 through col. 4 line 14) and a time-division transmit/receive system performing time-divisional transmission /reception of a signal (PCS1900 TDMA)(col. 3 lines 33 through col. 4 line 14), comprising: a first antenna (fig. 2 number 202); a first transmit/receive circuit fig. 2 number 206) for transmitting/receiving a signal to/from a base station (AMPs network)(fig.1) for said continuous transmit/receive system (AMPs network)(col. 3 line 33 through col. 4 line 30); a second transmit/receive circuit (fig. 2 number 208) for transmitting/receiving a signal to/from a base station (PCS 1900 network)(fig. 1) for said time-division transmit/receive system (PCS1900 TDMA)(col. 3 line 33 through col. 4 line 30); a judging circuit (DSP) judging one of said continuous transmit/receive system (AMPs) and said time-division transmit/receive system (PCS 1900) as a main system (col. 5 line 31 through col. 7 line 55) and the other as a monitor system on the basis of receive signals of said first and second transmit/receive circuits (col. 5 line 31 through col. 7 line 55); and a coupler (AMPs/PCS switch)

coupling said first or second transmit/receive circuit corresponding to a system judged as a main system (AMPs) by said judging circuit with said first and second antennas in a main system operation in which a signal is transmitted/received to/from a base station for the main system (col. 7 line 44 through col. 8 line 13), while coupling said first or second transmit/receive circuit corresponding to a system judged as a monitor system by said judging circuit with said first antenna in monitoring in which a signal is received from a base station for a monitor system (col. 7 line 44 through col. 8 line 13). Lee et al. further discloses said first transmit/receive circuit (fig. 2 number 208) generates receive speech (audio) data on the basis of receive signals from said first antennas to the speaker (fig. 2 number 216 and col. 3 lines 59-60) and said second transmit/receive circuit (fig. 2 number 206) selects a signal of a higher signal level of receive signals from said first antenna (fig. 2 number 202 and col. 7 line 25 through col. 8 line 13) and generates receive speech data on the basis of the selected receive signal (i.e. the multi-mode handset continues the conversation on the AMPs network)(col. 7 line 25 through col. 8 line 13). Lee et al. differs from claims 1 and 6 of the present invention in that it does not disclose a first and second antennas provided spaced apart from each other. However, dual mode handset with multiple antennas are known in the art for communicating with wireless or cellular networks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a first and second antennas that are spaced apart from each other to reduce interference between the antennas when communication between two different systems.

Allowable Subject Matter

3. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 2, the prior art of record fails to teach or suggest, alone or

in combination a first filter provided between said first antenna and said first transmit/receive circuit passing a signal of said continuous transmit/receive system there through and suppressing a signal of said time-division transmit/receive system; a second filter provided between said first antenna and said second transmit/receive circuit, passing a signal of said time division transmit/receive system there through and suppressing a signal of said continuous transmit/receive system; and a switching circuit coupling said second antenna and said first transmit/receive circuit with each other in a main system operation in case where said continuous transmit/receive system is a main system and in monitoring in a case where said time-division transmit/receive system is a main system, while coupling not only said first antenna and said second transmit/receive circuit with each other through said second filter but also said second antenna and said second transmit/receive circuit with each other in a main system operation in case where said time-division transmit/receive system is a main system and in monitoring in a case where said continuous transmit/receive system is a main system.

Regarding claim 3, the prior art of record fails to teach or suggest, alone or in combination a first filter provided between said first antenna and said first transmit/receive circuit, passing a signal of said continuous transmit/receive system there through and suppressing a signal of said time-division transmit/receive system; a second filter provided between said first antenna and said second transmit/receive circuit, passing a signal of said time division transmit/receive system there through and suppressing a signal of said continuous transmit/receive system; a circulator having first to third input/output ports, giving a receive signal to said second transmit/receive circuit through said second input/output port thereof, said receive signal being given to said first input/output port thereof through said first antenna and said second filter;, while giving a transmit signal to said first antenna through said first input/output port thereof and said second filter, the transmit signal being given to said third input/output port thereof from said second transmit/receive circuit; and a switching circuit coupling said second antenna and said first transmit/receive circuit with each other in a main system operation in a case where said continuous transmit/receive

system is a main system and in monitoring in a case where said time-division transmit/receive system is a main system, while coupling said second antenna and said second transmit/receive circuit with each other in a main system operation in a case where said time-division transmit/receive system is a main system and in monitoring in a case where said continuous transmit/receive system is a main system.

Regarding claim 4, the prior art of record fails to teach or suggest, alone or in combination a first and second filters, provided between each of said first and second antennas respectively, and said first transmit/receive circuit, passing a signal of said continuous transmit/receive system there through and suppressing a signal of said time-division transmit/receive system; third and fourth filters, provided between each of said first and second antennas respectively, and said second transmit/receive circuit, passing a signal of said time-division transmit/receive system there through and suppressing a signal of said continuous transmit/receive system; and a circulator having first to third input/output ports, giving a receive signal to said second transmit/receive circuit through said second input/output port, said receive signal being given to said first input/output port through said first antenna and said third filter, while giving a transmit signal to said first antenna through said first input/output port and said third filter, said transmit signal being given to said third input/output port from said second transmit/receive circuit.

Regarding claim 5, the prior art of record fails to teach or suggest, alone or in combination a first and second filters, respectively, provided between each of said first and second antennas, and said first transmit/receive circuit, passing a signal of said continuous transmit/receive system there through and suppressing a signal of said time-division transmit/receive system; third and fourth filters, respectively, provided between each of said first and second antennas, and said second transmit/receive circuit, passing a signal of said time-division transmit/receive system there through and suppressing a signal of said continuous transmit/receive system; and a switching circuit giving a transmit signal outputted from said second transmit/receive circuit to said first antenna through said third filter in transmission of

said second transmit/receive circuit, while giving a receive signal of said first antenna to said second transmit/receive circuit through said third filter in reception of said second transmit/receive circuit.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vuorio et al. (U.S. patent 6,535,748) discloses a wireless dual mode transceiver with dual antennas. Heinonen (U.S. Patent 5,896,562) discloses a dual mode transceiver consisting of filters and switches.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith T. Ferguson whose telephone number is (703) 305-4888. The examiner can normally be reached on 6:30am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Keith Ferguson KF
Art Unit 2683
January 22, 2004